DOCKET
11-AFC-4
DATE FEB 01 2012
RECD. FEB 02 2012

RIO MESA SOLAR ELECTRIC GENERATING FACILITY INFORMATIONAL HEARING AND SITE VISIT

February 1, 2012

Rio Mesa Solar – Introductions

- BrightSource Energy
  - Todd Stewart, Project Development Manager
  - Kevin Bertrand, Assistant Project Development Manager
  - Chris Ellison, Project Counsel

Proprietary & Confidential © 2011 BrightSource Energy, Inc. All rights reserved.

Rio Mesa Solar – Agenda

- BrightSource Energy Highlights
- Project Description
- Transmission
- Technology
- CEQA/NEPA Issues
- Economic Benefits
- Environmental Impacts/Benefits
- Q/A

Proprietary & Confidential © 2011 BrightSource Energy, Inc. All rights reserved.

BrightSource Energy Highlights

Proven, Environmentally-Responsible Technology:

- BrightSource's Solar Energy Development Center (SEDC) generating highest temperature and pressure solar steam in the world
- Dry-cooling reduces water use
- Environmentally-friendly design

Largest PPA Pipeline in Industry:

- 2.4GWs of signed PPAs with PG&E, SCE

Operational Project in California: Coalinga

- Chevron Solar-to-Steam for EOR

Project under Construction in California:

- Ivanpah - 392MWe (gross) for PG&E & SCE
  - Bechtel as EPC and Investor
  - Commenced construction October 2010

DESCRIPTION OF PROJECTS

Rio Mesa Solar –Description of Projects

- Description of Technology
  - Technology: BrightSource Energy's LPT Solar Power Tower Technology
  - Total Output: Three Projects with 750 MW (Nominal)
  - Plant Size: Each Project is a 250 MW Standard Design Platform
  - Homes Powered: 300,000 homes combined

- Solar Field Design
  - Approximately 85,000 heliostats per plant
  - Power Tower Description
    - 760 feet total height (including SRSG and lightning antenna)
    - Concrete cylindrical as opposed to a steel lattice.

Rio Mesa Solar – Property Description

- Property Description
  - Location: Riverside County, CA
  - Elevation: 355-365 feet above MSL
  - Size: Total Amount of Land Under Control – 6858 acres

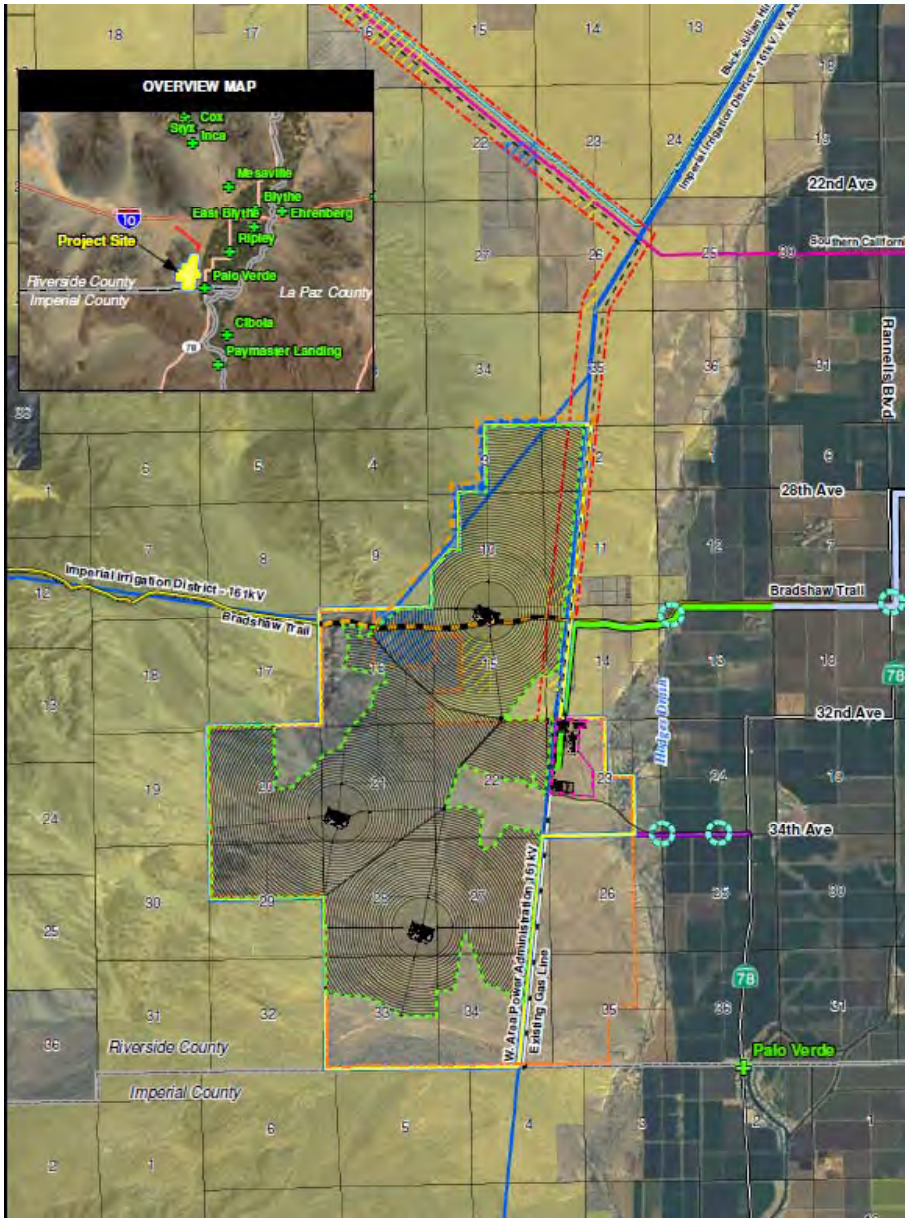
    Total Land to be Developed – 5750 acres

    Gen-Tie Line Area Studied – 1330 acres, final disturbance 125 acres
  - Land History: Private land: Former site proposed for a Sun Desert Nuclear Power Plant by SDG&E and subsequently sold to Metropolitan Water District

    Public Land: Used for military training during WWII, currently used by Off Highway Vehicles
  - Zoning: MWD Land: Action by Riverside Board on November 8, 2011 has brought all land into zoning conformance (subject to CEQA review).

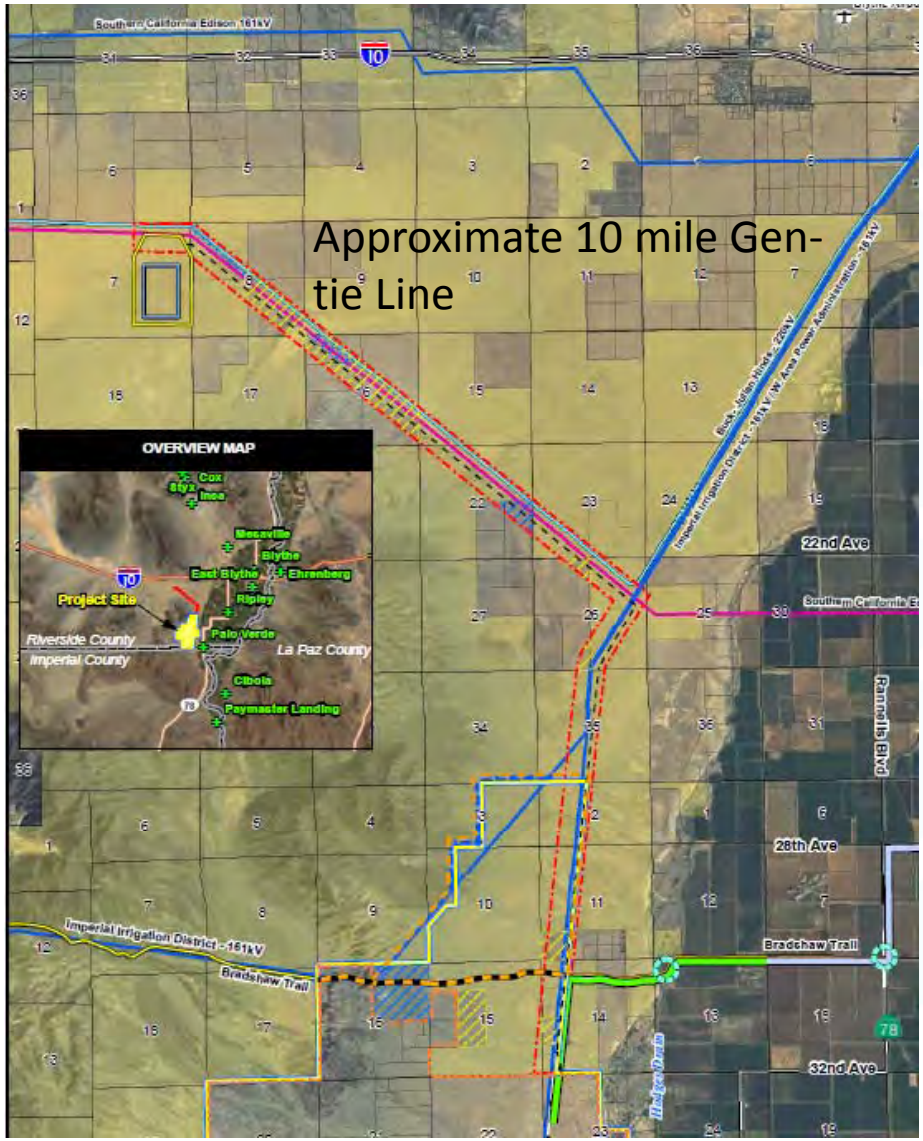
    BLM Land: Designations provide opportunity for development of a solar electric generation facility after CDCA Plan amendment is approved and NEPA requirements are met.

Rio Mesa Solar – Project Layout



BrightSource

Rio Mesa Solar – Generation Tie-Line



BrightSource

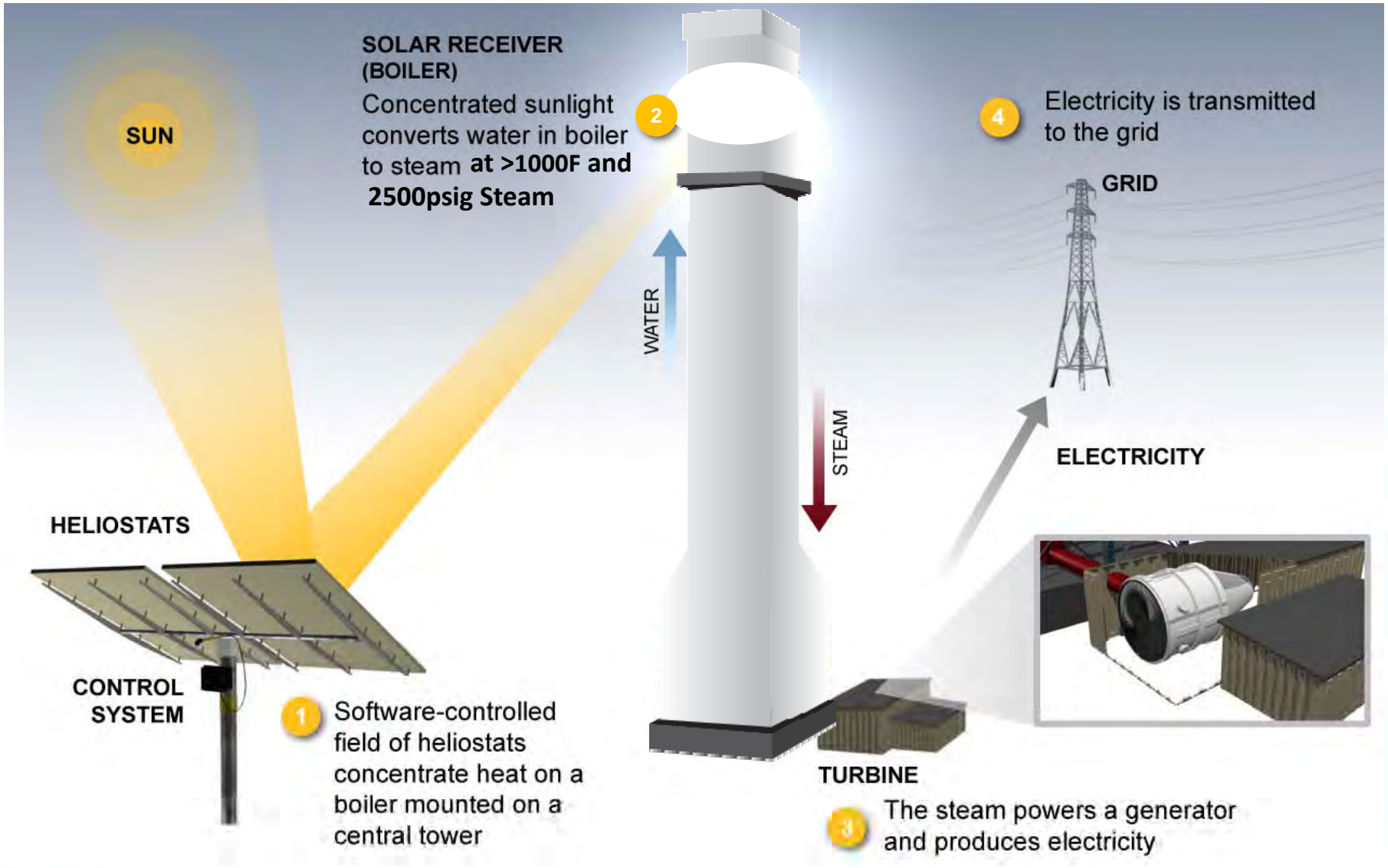
TRANSMISSION

Rio Mesa Solar – Transmission

- **Interconnect Point**
  - 220KV Bus at Colorado River Substation. Currently under construction by SCE and scheduled for operation by 12/2013. RMS is planned for first 220KV bank.
- **Delivery Network Upgrades (DNUs)**
  - RMS is in CAISO Queue Cluster 3 (QC3). QC3 Phase 1 Report was released on 5/27/2011. The DNUs identified included a number of 500 kV and 220 kV T/Lines and upgrades between a number of substations:
  - Subsequently, all but two I-10 projects in QC3 have withdrawn. Result is QC3 dropped from 2,770 MW to 890 MW, of which RMS is 750MW. (Drop rate is typical)
  - If sufficient projects drop out from QC4, major DNUs could be avoided.
  - Major DNU require CPCN. CPUC will conduct CEQA review with SCE.
- **Reliability Network Upgrades**
  - Needed to connect and generate. Typically completed within 24 months after signing of GIA.

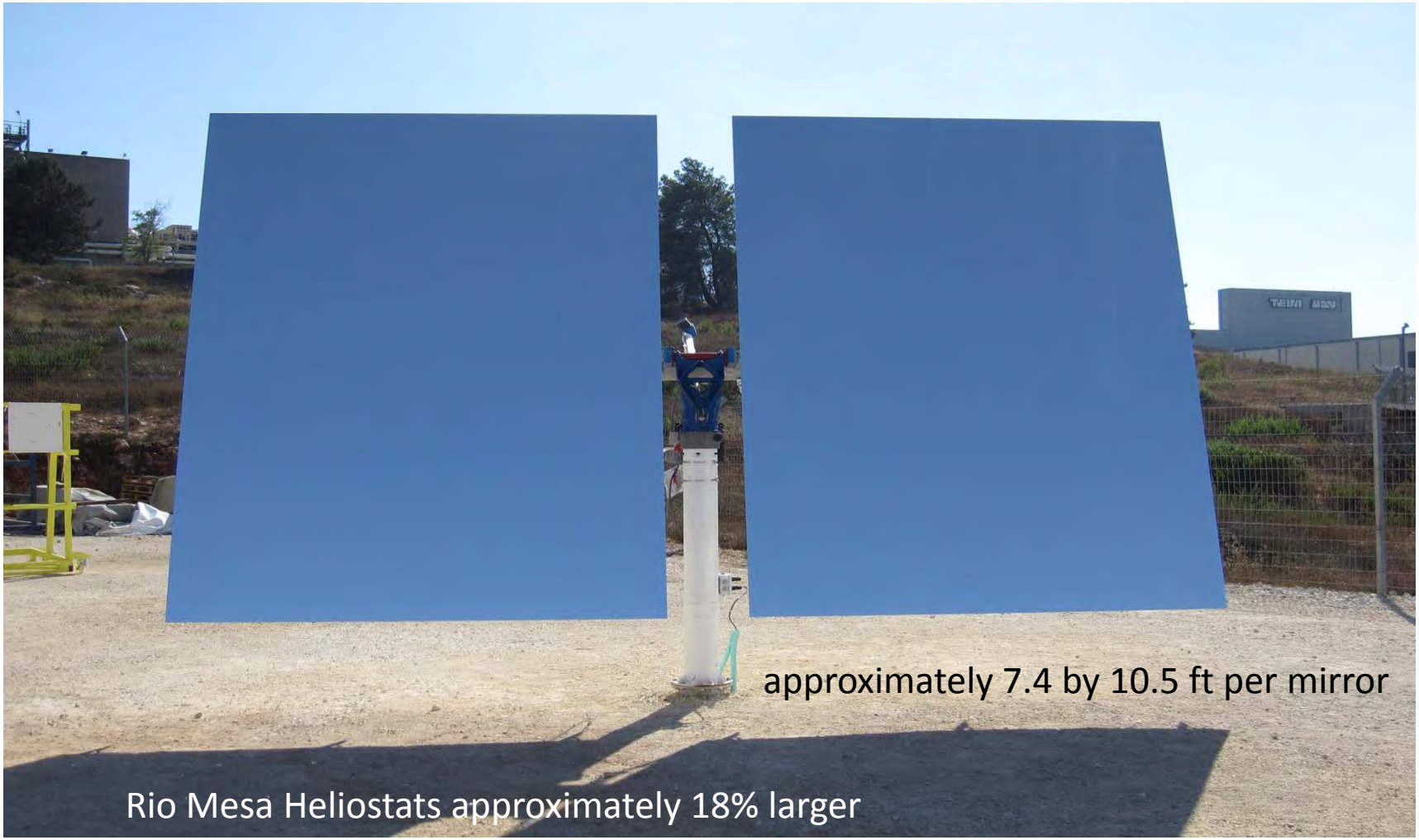
PROJECT TECHNOLOGY AND ENVIRONMENTAL ADVANTAGES

Rio Mesa Solar –Technology Summary



BrightSource

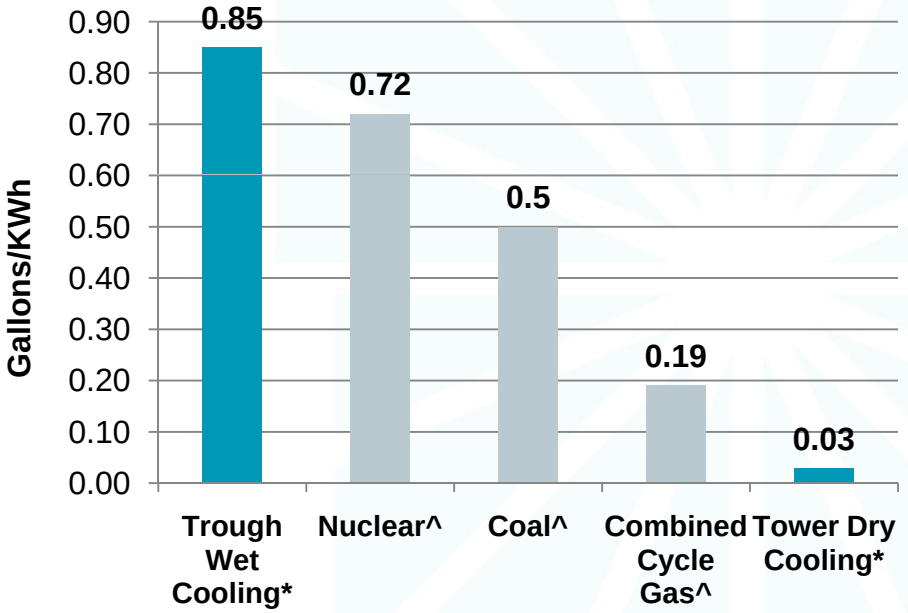
Rio Mesa Solar – LH-2 Heliostat (RMS slightly larger)



BrightSource

Dry Cooling Technology Significantly Reduces Water Use

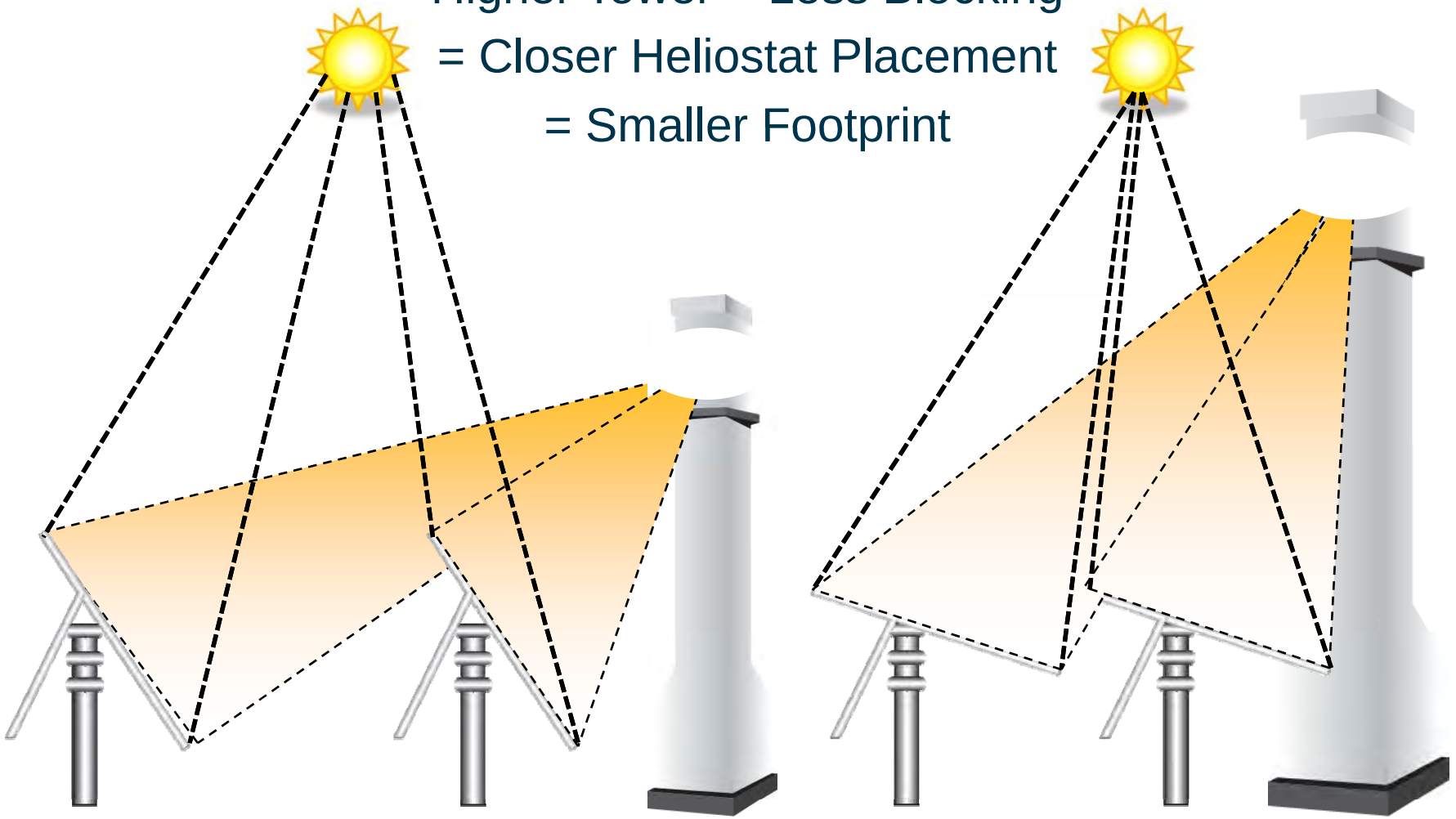
- Water Use: dry-cooling, conservation & closed-loop recycling
- Uses air instead of water to condense steam
- More than 90% less water use when compared to CSP using traditional wet-cooling
- Rio Mesa will use less than 260 acre-ft of water/year for all three plants combined during operations.



BrightSource

Hidden Hills SEGS – Improved Land Use Efficiency

Higher Tower = Less Blocking
= Closer Heliostat Placement
= Smaller Footprint



BrightSource

CEQA/NEPA REVIEW

Coordinated Federal and State Environmental Review

- On December 14, 2011, CEC announced that the Rio Mesa Solar Projects will be evaluated in a joint Federal/State process.
  - BLM will lead NEPA review.
  - CEC will lead CEQA review.
- The Rio Mesa projects are located on both Public and Private land.
  - Rio Mesa Solar-1, LLC is located entirely within Private land.
  - Rio Mesa Solar-2, LLC is located primarily within Private land.
  - Rio Mesa Solar-3, LLC is located on Federal, County, and Private land.
  - The generator-tie line is located primarily on Public land, but does cross over a few private parcels.

Scope of NEPA Review

- NEPA requires BLM to examine the power plants and the linear facilities.
- A federal nexus exists for the following key issues:
  - ESA Section 7 review
  - US Army Corps
  - Section 106 process
  - Any other Federal approvals

CEQA Review

- CEC Jurisdiction: exclusive jurisdiction to certify thermal power plants and related facilities located in California.
  - The Warren Alquist Act requires the CEC to prepare a CEQA equivalent document within a year of when the application is filed
  - CEC ensures compliance with all applicable laws, ordinances, regulations and standards, and a permit from the CEC is in lieu of any permit, certificate, or similar document required by any state, local or regional agency

Rio Mesa Solar – Key Issues: Biology

- Threatened or Endangered Species (Animals)
  - Only four Desert Tortoise found within project boundary
  - No other Federal or State Threatened or Endangered Species
- Birds & Bats
  - Golden Eagle Surveys: Helicopter surveys completed 2011. Additional pedestrian surveys are commencing.
  - Burrowing Owl surveys completed
  - Bats: Anabat monitor to be installed locations approved by REAT.
  - Migratory Bird Surveys: Additional surveys are commencing
- Botany
  - No Federal or State Threatened or Endangered Plant Species
  - No CDFG/CNPS Rank 1 List plants identified
- Federal/State Waters
  - Federal waterways under USACOE Review.
  - Further State Consultation to occur post USACOE Review.

Rio Mesa Solar – Key Issues: Cultural and Paleo

- Cultural Resources
  - Area is known for numerous cultural artifacts; however, most found are military can scatters and may not be eligible resources.
- Paleo Resources
  - Several Pleistocene era fossils found. Majority are in WAPA T-Line ROW. Excavations complete, curation nearly complete.
- Bradshaw Trail to be relocated.
  - Section of trail in project area is graded road.
  - Actual route of Bradshaw Trail is indeterminate in area.
  - BLM recommends access to Bradshaw Trail from Wiley's Well Road to the west and then on to Indio.
  - BLM states that far eastern reach has little cultural significance.

SOCIO-ECONOMIC BENEFITS

Rio Mesa Solar: Professional & Construction Jobs (Peak=2500)

- Carpenters
- Desert Biologists
- Engineers
  - Mechanical (Hydraulics, fluid mechanics, thermodynamics)
  - Electrical (Power emphasis)
  - Control System
  - Fire Protection
  - Structural
  - Civil (Soils mechanics, roads, concrete)
- Equipment Operators
- Insulators
- Pipe Fitters
- Laborers
- Millwrights
- Structural Steel
- Technicians
  - Electric
  - Instrument
- Certified Code Welders
- Plant Operators

Rio Mesa Solar – Socioeconomic Benefits

- Direct Employment:
  - Construction Jobs: 2,500 at peak of construction, 1,000 average over 3 years
  - Operations and Maintenance Jobs: 150

- Construction Wages: Approximately $660 Million*

- Operations & Maintenance Wages: Approximately $410 Million**
- State & Local Tax Benefits: Over $300 Million**

* *Over 3 year construction period, estimate not final*

** *Based on the first 25 years, estimates not final*


Questions and Answers